

NOTES ON BROMELIACEAE, IX

Lyman B. Smith

COSTA RICA

VRIESIA WILLIAMSII L. B. Smith, sp. nov.

A V. viride (Mez) Smith & Pittendrich, cui affinis, laminis foliorum angustioribus pulchre longitudinaliter purpureo-lineatis, petalis subduplo majoribus differt.

Apparently stemless but the extreme base lacking, flowering plant 8 dm. long with the inflorescence extended; leaves sub-erect, 4 dm. long, sparsely and minutely appressed-lepidote, sheaths elliptic, 10 cm. long, dark castaneous except near apex, blades narrowly triangular, acuminate, 2 cm. wide at base, longitudinally marked with fine purple stripes; scape slender, apparently decurved, glabrous; scape-bracts erect, subfoliaceous, much exceeding the internodes; inflorescence bipinnate, lax, 14 cm. long; primary bracts broadly ovate with a narrowly triangular spreading or recurved blade, the lower ones exceeding the flowers; branches 2-flowered, the axis almost completely aborted; pedicels stout, 3 mm. long; sepals elliptic, obtuse, 18 mm. long, 11 mm. wide, ecarinate, coriaceous; petals 45 mm. long, appendaged at base. Pl. I, fig. 1: Branch x 1; fig. 2: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,249,525, collected on trees in cloud forest near "El Jardin," Cerro de la Muerte, Cordillera de Talamanca, Province of Cartago, Costa Rica, altitude 2700 meters, May 20, 1956, by Louis O. Williams (No.20240a).

ECUADOR

TILLANDSIA CUCULLATA L. B. Smith, sp. nov.

A T. secunda H. B. K., cui affinis, foliorum vaginis multo majoribus, laminis ligulatis, ramorum basibus sterilibus brevibus nudis, bracteis florigeris obovatis cucullatisque differt.

Stemless, to 3 m. high; leaves to 65 cm. long, sheaths broadly elliptic, 30 cm. long, pale brown, covered with appressed cinereous brown-centered scales, blades ligulate, subacute, apiculate, 10 cm. wide, flat; inflorescence bipinnate with about 40 branches; axis stout; primary bracts broadly ovate, apiculate, exceeding the short naked sterile bases of the branches; spikes spreading, densely many-flowered, 16 cm. long, geniculate; floral bracts imbricate, scarcely if at all secund, obovate, cucullate, 30 mm. long, obscurely carinate, coriaceous and faintly nerved when dry, probably fleshy in life, bright yellow, obscurely pale-lepidote; flowers downwardly secund; pedicels broad, flattened, biangulate, 10 mm. long; sepals free, obovate, obtuse, 25 mm. long, subcoriaceous, nerved, green, carinate toward base, broadly convex above, obscurely pale-lepidote; petals naked, barely exceeding the sepals, the lower half white, the upper deep purplish blue; stamens included. Pl. I, fig. 3: Branch x 1/2; fig. 4: Sepal x 1.

Type in the U. S. National Herbarium, Nos. 1,987,734 and 1,987,735, collected on trees, 1-8 km. north of the village of Sevilla de Oro, eastern Cordillera, Province of Azuay, Ecuador, altitude 2400 to 2700 meters, July 27-August 12, 1945, by W. H. Camp (No. E-4592).

The above collection was erroneously reported as Tillandsia secunda H. B. K. in "Plants collected in Ecuador by W. H. Camp" (Mem. N. Y. Bot. Gard. 8: 29. 1952).

## PERU

VRIESIA CEREICOLA (Mez) L. B. Smith, comb. nov.

Tillandsia cereicola Mez in Fedde, Rep. Nov. Spec. 3: 34. 1906.

CAJAMARCA: Jaén: Woods near Jaén, alt. 700 m., Aug. 1956, Rauh P-331 (US, small-flowered form). ANCACHS: Open ground, near Caraz, alt. 2200 m., Weberbauer 3025 (B, type; F phot. 11487). Valley of the Rio Santa, alt. 2000 m., Aug. 1956, Rauh P-270 (US).

In the absence of the type it is necessary to judge the species on the basis of Rauh P-270 which is a very close match for the photograph and description of the type and comes from near the type locality. Mez gives no indication of having dissected a flower, apparently assuming that it had the characters of a Tillandsia. However, both Rauh P-270 and P-331 show well developed appendages at the base of the petal.

VRIESIA RAUHII L. B. Smith, sp. nov.

A V. lopezii L. B. Smith, cui valde affinis, spicis laxioribus, sepalis minoribus obtusis differt.

Flowering plant 6 dm. high; leaves erect, 38 cm. long, covered with minute gray closely appressed scales, sheaths triangular-ovate, 6-8 cm. long, dark castaneous, blades linear-triangular, 2 cm. wide, green; scape curved, slender, glabrous; scape-bracts erect and closely enfolding the scape, imbricate, elliptic, apiculate, red, lepidote, thin; inflorescence few-branched, digitate, 38 cm. long; primary bracts like the scape-bracts, 4 cm. long, much shorter than the densely bracteate sterile bases of the branches; branches suberect, flexuous, slender, shallowly excavated next the flowers; floral bracts erect, slightly longer than the internodes and exposing much of the rhachis, exceeding the sepals, 27 mm. long, ecarinate, the apex nerved and densely pale-lepidote, elsewhere even and glabrous, subcoriaceous; sepals elliptic, obtuse, 18 mm. long, ecarinate; petals imperfectly known, much exceeding the sepals, dark violet, bearing 2 large oblong scales at base; stamens probably exerted. Pl. I, fig. 5: Section of spike x 1; fig. 6: Sepal x 1.

Type in the U. S. National Herbarium, No. 2,251,107, collected in woods near Jaén, Province of Jaén, Department of Cajamarca, Peru, altitude 700 meters, September 2, 1956, by W. Rauh (No. P-330).

At first glance Vriesia rauhii would appear to differ from V. lopezii in its digitate inflorescence, but further material

received from Dr. López-Miranda shows that the latter species has both simple and digitate inflorescences.

## BOLIVIA

PUYA LAXA L. B. Smith, sp. nov.

P. spathacea Grisebach in systema Mezii (Pflanzenreich IV. Fam. 32: 285) proxima sed ramorum gracillimorum basibus sterilibus plerumque quam bracteis primariis integris subduplo longioribus differt.

Flowering shoot 8 dm. high (! Cardenas); leaves (only the inner known) at least 27 cm. long, sheaths suborbicular, 3 cm. long, glabrous toward base, densely serrulate toward apex, blades narrowly triangular, caudate-acuminate with a long entire apex, laxly serrate below with slender antrorse brown spines 5 mm. long, densely tomentose with coarse white scales especially beneath; scape 4 mm. in diameter, mostly exposed, soon glabrous; scape-bracts ovate, thin, the lower ones with small foliaceous blades, the upper merely acuminate, entire, much shorter than the internodes; inflorescence laxly bipinnate, soon glabrous except for the white-puberulent pedicels; primary bracts broadly ovate, apiculate, entire, to 25 mm. long, thin, mostly about half as long as the sterile bases of the branches; branches spreading, straight, very slender, lax, the lateral ones to 23 cm. long; floral bracts broadly ovate, apiculate, to 13 mm. long, slightly exceeding the pedicels, membranaceous; flowers dark violet (! Cardenas), not noticeably secund; pedicels slenderly cylindrical; sepals lance-oblong, apiculate, 17 mm. long, thin, sulcate, slightly carinate at base; petals 30 mm. long, naked. Pl. I, fig. 7: Base of branch x 1; fig. 8: Sepal x 1.

Type in the U. S. National Herbarium, Nos. 2,250,651 and 2,250,652, collected on dry stony soil near Pulquina, Department of Santa Cruz, Bolivia, altitude 1500 meters, December 1955, by M. Cardenas (No. 5092).

## BRAZIL

AECHMEA DEALBATA E. Morr. ex Baker, Handb. Bromel. 58. 1889.

Aechmea fasciata sensu L. B. Smith in part, Bromeliaceae of

Brazil, Smithsonian Misc. Coll. 126: 216. 1955.

Bracts brown with persistent white indument; scape-bracts nearly all imbricate; inflorescence ellipsoid and simple or narrowly pyramidal; petals coral red at anthesis. Pl. I, fig. 10: Inflorescence x 1/2.

BRAZIL: Cultivated, no further locality, E. Morren, Sept. 1879 (K, type, an unpublished plate); E. Morren, May 1885 (LG, GH phot.); M. B. Foster 2895 (US); Montreal Bot. Gard. IV (US).

The nearly related Aechmea fasciata (Lindl.) Baker has pale rose bracts with deciduous white indument, only the highest scape-bracts imbricate, the inflorescence broadly pyramidal and compound, and the petals pale blue at anthesis. Pl. I, fig. 9: Inflorescence x 1/2.

## Plate I

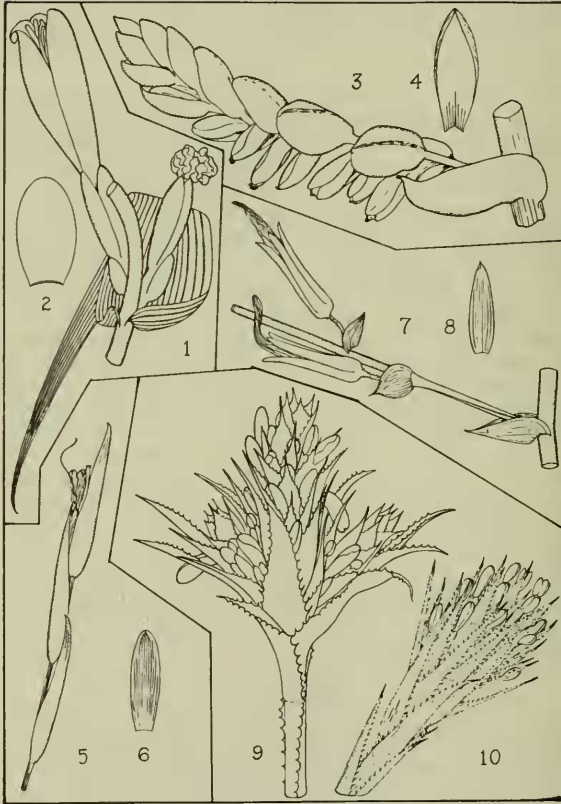


Fig. 1, 2: *Vriesia williamsii*; fig. 3, 4: *Tillandsia cucullata*;  
 fig. 5, 6: *Vriesia rauhii*; fig. 7, 8: *Puya laxa*; fig. 9:  
*Aechmea fasciata*; fig. 10: *Aechmea dealbata*.